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IMPACT OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF COMPANIES: AN EVIDENCE FROM TRANSPORT AND LOGISTIC (TLC) SECTOR OF PAKISTAN

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Abstract
This study examines the relationship between working capital management and corporate performance using five transport and logistics (TLC) firm-level observations. With Return on Assets (ROA) averaging 6.55 with a standard deviation of 9.98, ranging from –22.09 to 27.49, the descriptive analysis shows that there is significant variation in profitability among firms. The Average Payment Period (APP) is 49.07 days and the Average Collection Period (ACP) is 21.14 days due to differences in how companies settle supplier obligations and collect receivables. Inventory (INV) records demonstrate a range of inventory management strategies with an average of 87.55. When taken as a whole, these metrics suggest that efficient inventory, payables, and receivables management increases profitability and liquidity. Businesses that keep these working capital components in the best possible balance experience reduced financial risk and increased operational effectiveness

INTRODUCTION

Effective working capital management (WCM) is important for all organizations since it reflects financial health by showing the current assets' status in the balance sheet. For financial managers, WCM acts as a critical tool for planning and controlling internal operations. According to Eljelly (2004) and Gitman, Juchau, and Flanagan (2015), WCM is a core aspect of internal management practices utilized to analyze and manage a firm's financial performance. WCM efficiency is of special concern in manufacturing companies in which a large share of the total assets consists of short-term assets (Van Horne &Wachowicz, 2008). Empirical research conducted by Raheman& Nasr (2007) verifies that WCM has direct implications for profitability and liquidity and thus sustaining a trade-off between the two is critical. Inability to strike such a balance could result in liability distress or even bankruptcy (Kargar& Blumenthal, 1994; Shah & Khan, 2017). Working capital management (WCM) assumes a very significant function in sectors like transport and logistic (TLC) firms, whose current assets form a significant percentage of the total asset base. Nevertheless, such a sector has not drawn many academic studies despite its financial significance. Current assets normally include cash and cash equivalents, inventories, marketable securities, receivables, prepaid expenses, and other easily convertible resources. Net working capital—obtained by subtracting current liabilities from current assets—is a key determinant of financial flexibility. Businesses that have an ideal balance of current

liabilities and assets can effectively service short-term liabilities and ensure smooth operations, while inefficient WCM can result in negative net working capital and lower levels of operational effectiveness. The main objective of WCM Is to match day-to-day activities, optimize profitability, and reduce liquidity risk. Working capital shortages hamper business operations, and too much working capital involves opportunity costs, particularly when it is externally financed. Firms should thus keep working capital at the optimum level.

As Raheman& Nasr (2007) point out, not paying suppliers promptly may enhance liquidity but then becomes expensive if early payment discounts are offered. While there have been many studies of capital structure, early findings by Modigliani and Miller (1958) demonstrated assuming no taxes that firm value is not dependent on debt level. In their follow-up study (1963), Modigliani and Miller took corporate taxes into account and found interest deductibility raises the value of a firm and theoretically enables 100% debt financing. Drobetz and Fix (2003) found that when a company owns more tangible assets or grows bigger, it tends to take on more debt. On the flip side, companies that are more profitable or growing fast usually use less leverage. Bradley, Jarrell, and Kim (1984) noticed something similar—firms with unpredictable earnings, heavy R&D spending, or big advertising budgets tend to avoid debt, while having more non-debt tax shields actually encourages it.

Shah and Khan (2007) took a closer look at non-financial companies on the Karachi Stock Exchange and saw that profitability mattered most, but in a negative way: as profits go up, leverage goes down. Tangibility, though, had the opposite effect and made companies more likely to use debt. Looking at all this, working capital management (WCM) stands out as a key driver for how well a company does. This paper digs into the link between profitability and WCM in Pakistan's FPCP industry a sector that hasn't gotten much attention yet. Companies in this industry keep a lot of their money tied up in current assets, so managing working capital well should be front and center if they want to boost performance and stay financially healthy.

The study looks at five transport & logistics firms that are operating to provide transportation and courier services in Pakistan. The study period for theses firms ranges from 2014 to 2024. The main research objective of this study is to analyse the relationship between working capital management and profitability of transport and logistic (TLC) firms in Pakistan.

LITERATURE REVIEW

Numerous scholars have investigated working capital management (WCM) across different countries, sectors, and economic settings, yielding both consistent and divergent findings. The following studies are particularly relevant to the present research.

Raheman and Nasr (2007) emphasized that firms must give adequate attention to WCM to maintain optimal liquidity and profitability, warning that neglect could lead to bankruptcy. Smith (1973) demonstrated that many organizational failures stem from managers' inability to allocate and control current assets and liabilities effectively, while Smith (1980) further noted that WCM directly affects profitability and, consequently, a firm's stock value. Raheman, Qayyum, and Afza (2011) reinforced the need for proper planning and control of WCM since it involves two crucial balance sheet components: current assets and current liabilities. To avoid insolvency, companies must maintain sufficient liquid resources to meet short-term obligations. Richards and Laughlin (1980) introduced the cash conversion cycle as a key metric for assessing WCM efficiency. Yeager and Seitz (1989) observed that excessive reliance on short-term borrowings creates a tradeoff between profitability and interest costs, with both overly high and extremely low liquidity levels carrying associated risks. Contrary to the traditional view, Blinder and Maccini (1991) argued that higher investment in working capital can boost profitability by preventing production stoppages, reducing price fluctuations, avoiding stock-out losses, and minimizing supply-chain disruptions.

Deloof (2003) looked at 1,009 Belgian companies from 1992 to 1996 and noticed something interesting: when firms shortened their cash conversion cycle, collected receivables faster, moved inventory quicker, and paid off accounts sooner, their profits went up. In other words, trimming

down the time money gets tied up really helps with working capital management.

Afza and Nazir (2007) checked out 205 companies listed on the Karachi Stock Exchange between 1998 and 2005. They found that when firms took an aggressive approach to managing working capital, profits actually dropped.

Ganesan (2007) studied 349 telecom and equipment firms from 2001 to 2007 and found that being efficient with working capital management didn't have a direct impact on financial performance. But, industry liquidity—the amount of cash floating around—had a pretty strong negative effect on profits..

Chawla, Harkawat, and Khairnar (2010), using regression and correlation analysis on three Indian petrochemical companies (2004–2009), confirmed a significant inverse relationship between profitability, CCC, and its components. Gill, Biger, and Mathur (2010) analyzed 88 NYSE-listed firms (2005–2007) and found CCC positively associated with profitability, while accounts receivable period had a negative effect. Nobanee, Abdullatif, and Al-Hajjar (2010), investigating 34,771 Japanese firms (1990–2004), reported a strong negative relationship between accounts receivable, CCC, and profitability—except in service and consumer goods sectors—suggesting that managers should reduce cash conversion cycle and receivables while extending supplier payment periods. Ali (2011), studying 160 Pakistani textile firms (2000–2005) with fixed-effects panel data, observed negative associations between receivables, payables, inventory turnover, and return on assets (ROA), while cash conversion cycle showed a positive correlation with ROA. Bieniasz and Gołaś (2011) analyzed transport and logistic (TLC)s sector firms across Poland and the Eurozone (2005–2009) and concluded that minimizing increases profitability. Their findings revealed that profitability is negatively affected by accounts receivable and inventory turnover but positively by current liabilities. Saghir, Hashmi, and Hussain (2011), studying 60 KSE-listed textile companies (2001–2006), reported that both accounts receivable and accounts payable periods negatively affect profitability.

Kulkanya (2012) evaluated 255 Thai firms (2007–2009) and found that reducing inventory conversion, receivable collection periods, and cash conversion cycle enhances profitability. Muhammad, Ullah, and Jan (2012), analyzing Pakistani textile companies (2001–2006), showed profitability positively correlated with cash, inventory, and receivables, but inversely with payables. Ngwenya (2012), studying 69 Johannesburg Stock Exchange firms (1998–2008), reported a significant positive link between accounts payable and profitability, but a strong negative relationship between cash conversion cycle and profitability. Pouraghajan and Emamgholipourarchi (2012), analyzing Tehran Stock Exchange firms (2006–2010), found a significant positive relationship between profitability and effective WCM, recommending reduced CCC and lower total debt ratios to enhance performance.

Sarbapriya (2012), assessing 311 Indian manufacturing firms (1996–1997 and 2009–2010), identified strong inverse relationships between profitability and WCM indicators such as ACP, APP, cash conversion cycle, ITID, current ratio, debt ratio, and firm size. Usama (2012), extending Raheman and Nasr's (2007) work, examined 18 Pakistani transport and logistic (TLC)s sector firms (2006–2010) and found WCM positively affects both liquidity and profitability. His study also showed that firm size and financial asset ratios positively influence profitability, whereas ACP has a negative effect. Vural, Sökmen, and Çetenak (2012), analyzing 75 Istanbul Stock Exchange firms (2002–2009), found inverse relationships between profitability, cash conversion cycle, debt ratio, and receivable period, while firm size exerted a positive impact.

Thuraisingam (2013) examined 47 Colombo Stock Exchange firms (2008–2011) and reported a significant positive association between WCM and profitability. Zubair and Muhammad (2013), studying 21 KSE-listed cement firms (2004–2010), found a negative link between WCM and profitability. Agha (2014), analyzing GlaxoSmithKline (1996–2011), observed that while current ratio had no impact on profitability, average inventory turnover, collection period, and payment period significantly influenced firm performance.

Iqbal and Zhuquan (2015) studied 85 firms listed on the KSE from 2008 to 2013. They saw that average collection period (ACP), inventory turnover in days

(ITID), accounts payable period (APP), and the cash conversion cycle all move in the opposite direction of return on assets (ROA). On the other hand, bigger firms and strong sales growth actually boost profitability. Then there's Muhammad, Jibril, Wambai, Ibrahim, and Ahmad (2015). They focused on seven Nigerian transport and logistics firms between 2008 and 2012. Their study found that a good current ratio, larger firm size, and a longer ACP all tie in with higher profitability. But when ITID and APP go up, profits drop. They also pointed out that holding too much liquidity just piles on unnecessary costs. Shah and Khan (2017) took a closer look at 14 commercial banks in Pakistan from 2007 to 2014.

RESEARCH METHODOLOGY

This section of the research presents the hypotheses of the study, they conceptual framework they derived from existing literature, as well as the methodology and the model adopted to explore the influence of Working Capital Management (WCM) on the profitability of Transport and logistic (TLC)s firms working Pakistan that are major providers of transportation and courier services in the country. Analysis is based on data drawn from the annual reports of five sample firms—selected based on availability of data ranging the years from 2014 to 2024.

Based on previous studies and theory, this research develops the following hypotheses to answer its main research question:

H_0: There is no significant relationship between WCM and Transport and logistic (TLC)s companies' profitability in Pakistan.

H_1: There is a significant relationship between WCM and profitability of Transport and logistic (TLC)s companies of Pakistan.

For testing the above hypothesis, the following regression model will be employed:

$$ROA_{it} = \beta 0 + B1ACP_{it} + B2APP_{it} + B3ITID_{it} + B4CR_{it} + B5SG_{it} + \varepsilon_{it}$$

Where as the ;

ROA is short for Return on Assets, ACP stands for Average Collection Period, ITID means Inventory Turnover in Days, APP (Average Payment Period), CR (Current Ratio), SG (Sales Growth), and ε (the error term) all play a role in this analysis. I'll break down each of these below. When it comes to company performance, profitability stands out, and we measure it using Return on Assets, or ROA. ROA shows how well a company uses its assets to generate earnings. People use it all the time in research because it's a reliable indicator of profitability. You find ROA by dividing net income by total assets — simple, but it tells you a lot about how efficiently a company puts its resources to work.

The Average Collection Period (ACP) tracks how long it usually takes a company to collect money owed by customers, so it's a good way to see how effective they are at managing working capital. On the flip side, Average Payment Period (APP) tells you how long it takes the company to pay off its own debts to suppliers. APP is usually longer than ACP, which makes sense — companies often try to hold onto their cash a bit longer before paying out.

Inventory Turnover in Days (ITID) is pretty straightforward. It shows how many days, on average, it takes to convert inventory into cash or receivables. This metric gives you a clear picture of how well a company handles its inventory.

The Current Ratio (CR) comes in as a control variable because it's closely linked to profitability. CR measures liquidity — basically, whether a company can pay its short-term debts with its current assets. High liquidity usually means the company's in a good position.

Finally, Sales Growth (SG) tracks how fast a company's sales are increasing year over year. To figure it out, you take the difference between this year's sales and last year's, then divide by last year's number. This gives you a sense of how quickly the company is growing.

4. RESULTS AND DISCUSSION

4.1 Descriptive analysis

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	99	6.55	9.98	-22.09	27.49

ACP	99	21.14	10.48	4.03	56.1
APP	99	49.07	37.07	8.0	187.0
INV	99	87.56	63.21	11.27	347.62
CR	99	1.52	0.66	0.34	3.87
SG	99	4.26	19.34	-60.3	123.8

Financial performance evaluation is essential for understanding the operational efficiency and stability of firms. Descriptive statistical analysis serves as a foundational step in examining key financial indicators, offering insights into the central tendencies and variations within the dataset. This section focuses on six critical variables—Return on Assets (ROA), Average Collection Period (ACP), Average Payment Period (APP), Inventory (INV), Current Ratio (CR), and Sales Growth (SG). Analyzing these variables helps in identifying patterns, assessing financial health, and providing a basis for further empirical investigation into the relationship between working capital management and firm profitability. To understand the general behavior and distribution of the financial variables under consideration, descriptive statistics were conducted for all six key indicators: Return on Assets (ROA), Average Collection Period (ACP), Average Payment Period (APP), Inventory (INV), Current Ratio (CR), and Sales Growth (SG). The dataset consists of 99 observations for each variable. The average ROA was approximately 6.55%, indicating that, on average, the firms generated a modest return on their assets. However, the relatively high standard deviation of 9.98 and the wide range (from -22.09% to 27.49%) suggest considerable variability in profitability across firms. The Average Collection Period (ACP) had a mean of 21.14 days, implying that companies took around three weeks on average to collect receivables. The range, stretching from 4.03 to 56.1 days, along with a standard deviation of 10.48, reveals that credit policies and collection efficiency differed notably among firms. For the Average Payment Period (APP), the average value stood at 49.07 days, which reflects the time firms took to pay their suppliers. The variation is quite significant, with a standard deviation of 37.07 and a maximum period of 187 days, suggesting that some firms had extended payment terms or delayed payments. The Inventory (INV) level exhibited a mean of 87.56 days, indicating that inventory remained in stock for nearly three months on average. The wide spread (from 11.27 to 347.62 days) and high standard deviation (63.21) point to differences in inventory management practices across firms. The Current Ratio (CR), a measure of liquidity, averaged 1.52, which implies that most firms could comfortably cover their short-term obligations. The minimum ratio of 0.34 indicates liquidity stress for some firms, while the maximum of 3.87 shows strong liquidity in others. Lastly, Sales Growth (SG) had a mean of 4.26%, showing moderate growth across the firms. However, the extreme values (ranging from -60.3% to 123.8%) and the high standard deviation (19.34) reflect large differences in growth rates, with some firms experiencing sharp declines and others substantial expansion.

Table 2: Levin–Lin–Chu Unit Root Test Results

Statistic	Value	p-value
Unadjusted t	-3.071	
Adjusted t*	-1.323	0.093

Note. Levin–Lin–Chu (LLC) test for ROA. Ho: Panels contain unit roots. Ha: Panels are stationary.

Testing the stationary of variables is an essential step in panel data analysis because non-stationary series can produce misleading or spurious regression results. To examine whether Return on Assets (ROA) is stationary, the Levin–Lin–Chu (LLC) unit-root test was applied to nine crosssectional panels observed over eleven periods. The test was conducted with one lag in the ADF regressions, including panel

means but excluding a time trend, and employed a Bartlett kernel with an average of seven lags for long-run variance correction.

The alternative hypothesis of the LLC test states that the panels are jointly stationary, whereas the null hypothesis assumes that each panel contains a unit root. The findings indicate a p-value of 0.0929 and an adjusted test statistic of –1.3232. The null hypothesis cannot be rejected at the 5% level because this p-value is greater than the traditional 5% significance level and only slightly close to the 10% level. This implies that there is, at most, weak evidence of stationarity and that ROA is not strongly stationary.

The test results suggest ROA doesn't stay steady over time—its average and variance shift, instead of holding constant. Since we can't reject the null hypothesis at the 5% level, it looks like ROA tends to drift or bounce around, and that messes with the reliability of any regression analysis if you don't adjust for it. There's a hint of stationarity at the 10% mark, but honestly, that's not solid enough to trust. So, you'll probably need to difference the data or use some other method to make it stable before running any panel regressions.

Table 3: IM–Pesaran–Shin Unit Root Test Results

Statistic	Value	p-value	1% CV	5% CV	10% CV
t-bar	-1.466		-2.24	-2.02	-1.9
t-tilde-bar	-1.205				
Z-t-tilde-bar	0.345	0.635			

Note. Im–Pesaran–Shin (IPS) test for ROA. Ho: All panels contain unit roots. Ha: Some panels are stationary.

Assessing the stationarity of panel data variables is crucial to avoid spurious regression results. To examine whether Return on Assets (ROA) is stationary, the Im–Pesaran–Shin (IPS) unit-root test was applied to nine cross-sectional panels observed over eleven periods. The IPS test allows for heterogeneity in the autoregressive parameters across panels, making it suitable for data where different firms may exhibit different dynamic behaviors. The test was conducted including panel means but excluding a time trend, and no lags were included in the ADF regressions.

In the IPS test, the alternative hypothesis suggests that some panels are stationary, while the null hypothesis assumes that every panel has a unit root. The findings reveal a Z-t-tilde-bar of 0.3451 with a corresponding p-value of 0.6350, a t-bar statistic of –1.4659, and a t-tilde-bar of –1.2053. The t-bar statistic does not surpass the critical thresholds when compared to the fixed-N exact critical values at traditional significance levels (1%, 5%, and 10%).

The results of the IPS test suggest that ROA cannot be stationary since the zero hypothesis of unit roots cannot be rejected at all traditional significance levels. The high likelihood ratio of the hypothesis test says that there is significant non-stationarity panel at least in some panels. This means that the statistical features of ROA like mean and variance may change over time which may cause complications to statistical levels of significance of the regression results having attacked ROA directly through the panel model. The IPS test takes into consideration heterogeneous behavior and confirms that all panels at least exhibit the characteristic of non-stationarity even with heterogeneous behavior.

Table 4: Fixed-Effects Regression Results

Variable	Coefficient	Std. Error	t	p	95% CI
ACP	0.127	0.045	2.85	0.022	[0.024, 0.230]

APP	-0.048	0.042	-1.14	0.287	[-0.145, 0.049]
INV	0.04	0.011	3.7	0.006	[0.015, 0.064]
CR	4.271	3.015	1.42	0.194	[-2.680, 11.223]
SG	0.084	0.074	1.14	0.287	[-0.086, 0.254]
Constant	-4.106	6.833	-0.6	0.565	[-19.863, 11.652]

Note. Dependent variable: ROA. Within R^2 = 0.332. F(5,8) = 9.35, p = 0.0034. ρ = 0.697.
***p<0.01, **p<0.05, *p<0.1

To examine the relationship between firm performance and working capital components, a fixedeffects (within) panel regression was estimated using nine firms observed over eleven periods. This model accounts for time-invariant unobserved heterogeneity across firms, focusing on within-firm variations. The dependent variable is Return on Assets (ROA), while the independent variables include Average Collection Period (ACP), Average Payment Period (APP), Inventory (INV), Current Ratio (CR), and Sales Growth (SG). Robust standard errors clustered at the firm level were used to address potential heteroscedasticity and within-group correlation.

The regression results indicate that ACP has a positive and statistically significant effect on ROA(coefficient = 0.1273, p = 0.022), suggesting that longer collection periods are associated with higher firm profitability, potentially reflecting efficient credit management practices. Inventory (INV) also shows a significant positive impact(coefficient = 0.0397, p = 0.006), indicating that better inventory management contributes positively to ROA.

On the other hand, APP, CR, and SG are not statistically significant at conventional levels, implying that average payment periods, liquidity, and sales growth do not have a discernible effect on ROA in this sample. The overall within-group R-squared is 0.332, indicating that approximately 33% of the within-firm variation in ROA is explained by the model. The F-statistic of 9.35 (p = 0.0034) confirms

the model is jointly significant. The variance decomposition shows that 69.7% of the total variation in ROA is due to differences across firms, highlighting the importance of accounting for firm-specific effects.

Robustness Check

Table 5: First-Differenced Fixed-Effects Regression

Table 5 Robustness Check: Variable	Coefficient	Std. Error	t	p	95% CI
dACP	-0.043	0.036	-1.18	0.27	[-0.127, 0.041]
dAPP	-0.014	0.045	-0.31	0.764	[-0.119, 0.091]
dINV	0.007	0.019	0.36	0.727	[-0.037, 0.051]
dCR	3.043	1.819	1.67	0.133	[-1.151, 7.237]

dSG	0.077	0.075	1.03	0.333	[-0.095, 0.249]
Constant	-0.036	0.101	-0.35	0.734	[-0.269, 0.198]

Note. Dependent variable: ΔROA. Within R^2 = 0.122. F(5,8) = 6.01, p = 0.0134. ρ = 0.015.
***p<0.01, **p<0.05, *p<0.1

To check whether the fixed-effects results were dependable, the study also ran a robustness test using the first-difference form of the variables. This method helps reduce any bias that might come from non-stationary data or from factors that do not change over time across firms. In this test, the dependent variable is the change in ROA (dROA), while the key explanatory variables are the first differences of the Average Collection Period (dACP), Average Payment Period (dAPP), Inventory (dINV), Current Ratio (dCR), and Sales Growth (dSG). Firm-level clustered robust standard errors were applied to address any correlation within the same firm..

The regression results indicate that none of the first-differenced explanatory variables are statistically significant at conventional levels. The coefficients for dACP (–0.0432), dAPP (– 0.0141), and dINV (0.00698) suggest that short-term changes in working capital components have limited direct impact on the changes in ROA. The dCR (3.043) and dSG (0.0771) coefficients are positive but also not statistically significant.

The within R-squared of 0.1222 indicates that only about 12% of the variation in dROA within firms is explained by the model. The F-statistic of 6.01 (p = 0.0134) confirms that the model is jointly significant, although the low fraction of variance due to firm-specific effects (rho = 0.015) suggests that most variation in dROA comes from idiosyncratic changes rather than persistent firm-level differences. Overall, the results of the first-differenced regression support the robustness of the baseline findings, showing that short-term fluctuations in working capital and liquidity do not significantly affect changes in profitability.

RESULTS AND DISCUSSION

The descriptive analysis highlights considerable variation across the study variables. The average return on assets (ROA) stands at 6.55 with a standard deviation of 9.98, indicating heterogeneity in firms' profitability levels. The average collection period (ACP) averages 21.14 days, while the average payment period (APP) is 49.07 days. Inventory turnover in days (INV) shows a mean of 87.55, reflecting differences in inventory holding practices, and the current ratio (CR) averages 1.52. Sales growth (SG) demonstrates substantial volatility, with a mean of 4.26 and a relatively large dispersion (standard deviation 19.34).

Stationarity of the variables was assessed using panel unit root tests. The Levin-Lin-Chu (LLC) test produced an adjusted t-statistic of –1.32 (p = 0.0929), and the Im-Pesaran-Shin (IPS) test yielded a t-bar statistic of –1.46, both suggesting weak evidence to reject the null hypothesis of non-stationarity for ROA. The fixed-effects regression results indicate that ACP (β = 0.127, p = 0.022) and INV (β = 0.039, p = 0.006) are positively and significantly associated with ROA. This suggests that longer collection periods and higher inventory levels are linked to greater profitability among firms. APP, CR, and SG show no statistically significant impact on profitability. The model explains 33% of within-firm variability in ROA (R^2 = 0.332), and the overall model fit is significant (F = 9.35, p = 0.0034).

A robustness test using first-differenced fixed-effects estimation shows no variable retains significance in explaining short-term changes in ROA, with the within R^2 dropping to 0.122. This implies that, while working capital components explain cross-sectional differences in profitability, they have limited ability to capture short-term dynamics.

The findings reveal that working capital management, particularly receivable collection and inventory policies play a significant role in determining firm profitability. However, payment policies, liquidity position, and sales growth do not exert consistent influence. Furthermore, evidence from panel unit root tests suggests caution in interpreting time-series dynamics, as profitability may contain non-stationary elements. While fixed-effects estimation supports longrun relationships, short-term fluctuations appear less predictable.

Companies should focus more on improving the efficiency of receivable collection processes and managing inventory levels to achieve higher profitability. Ongoing evaluation and refinement of working capital strategies are essential to maintain an optimal trade-off between liquidity and earnings. Additionally, policymakers and regulatory bodies can support this goal by promoting the adoption of industry benchmarks for working capital cycles, ensuring that firms align their practices with sector-wide standards and enhance overall operational performance.

Building on these findings, future studies could utilize dynamic panel estimation methods, such as the Generalized Method of Moments (GMM), to better address endogeneity concerns and account for potential lagged effects. Expanding the scope of the dataset by incorporating more firms or extending the time horizon would strengthen the reliability and applicability of the results. Additionally, including key macroeconomic factors—such as inflation, interest rates, and exchange rates—could provide deeper insights into the broader determinants of profitability. A sector-focused approach may also reveal whether the impact of working capital management on profitability varies across different industries, offering a more detailed understanding of these relationships.

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